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Patent  
Attorney's Docket No. 027400-690

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Reissue Application of )  
U.S. Patent No. 5,088,108 to ) Group Art Unit: 2603  
UDDENFELDT et al. ) Examiner: B. Safourek  
Serial No. 08/136,760 )  
Filed: October 15, 1993 )  
For: CELLULAR DIGITAL MOBILE )  
RADIO SYSTEM AND METHOD )  
OF TRANSMITTING INFORMATION )  
IN A DIGITAL CELLULAR )  
MOBILE RADIO SYSTEM )

**SUPPLEMENTAL DECLARATION IN SUPPORT OF REISSUE APPLICATION**

Honorable Commissioner of Patents and Trademarks  
Washington, D.C. 20231

Sir:

This Declaration is supplemental to the Declarations filed on October 15, 1993, on  
February 8, 1996, and October 30, 1996.

We, Jan E. Uddenfeldt and Alex K. Raith, hereby supplementally declare as  
follows:

- (1) We are citizens of Sweden, having a post office address of c/o  
Telefonaktiebolaget L M Ericsson, S-126 25, Stockholm, Sweden.
- (2) We believe that we are the original, first inventors of the invention  
described and claimed in the United States Patent No. 5,088,108 and in the specification  
and the claims of the Reissue Application filed and proposed amendments made thereto.

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(3) We have reviewed and understand the contents of the specification and the claims of the Reissue Application and proposed amendments made thereto.

(4) We hereby claim the benefit of foreign priority under 35 U.S.C. § 119 with respect to Swedish Patent Application No. 8800698, filed on February 29, 1988.

(5) We acknowledge the duty to disclose information that we are aware of which is material to the examination of this Reissue Application in accordance with 37 C.F.R. § 1.56(a).

(6) We verily believe U.S. Patent No. 5,088,108 to be partially inoperative by reason of our having claimed less than we had the right to claim in said Letters Patent. The specific inoperability of the patent is discussed below in more detail relative to the newly added and amended claims which alter the scope of protection for the present invention.

(7) Claim 18 has been changed to delete the phrase "during a reception time interval, said time shift being in the range of less than to a few times greater than said difference in radio propagation delays". This change was made to correct two errors. First, the phrase "during a reception time interval" is properly recited later in claim 18 at the point where reception of the signals by a mobile station is discussed and is confusingly recited at the first instance in the portion of claim 18 where transmission of the signals is discussed. Second, specifying the time shift to be in a range of "less than to a few times greater than" the difference in propagation delays is redundant and confusing when taken in conjunction with the earlier claim recitation that the time shift arises from a difference between first and second radio propagation delays.

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(8) The failure to present claim 18 in the manner currently specified resulted in the error that claim 18 was less clear and, therefore, the assignee and the inventors claimed less than they had a right to claim in presenting claim 18 in its original, more confusing form. This error was recognized on or about September 1997 during continued review of the pending claims subsequent to the interview held with Examiner Safourek. This error apparently arose due to a failure on the part of those prosecuting the reissue application to fully appreciate the scope of the invention.

(9) New claim 37 is a dependent claim based on claim 1 which describes a feature set forth in the specification. Claim 37 recites means for handing off a mobile station from one base station to another. A claim specifying a "means for handing off a mobile station" was not presented in the original application and, thus, it is believed that the assignee and inventors claimed less than they had the right to claim. This error was discovered based on a more intensive review of the patent disclosure on or about late July 1997 in conjunction with litigation. This error was apparently caused by a failure of the individuals who originally prosecuted the application to appreciate the full scope of the invention.

(10) New claim 38 is a dependent claim based on claim 1 which describes a feature set forth in the specification. Claim 38 recites means for terminating a radio signal from one of at least two base stations. A claim specifying a "means for terminating a radio signal" was not presented in the original application and, thus, it is believed that the assignee and inventors claimed less than they had the right to claim. This error was discovered based on a more intensive review of the patent disclosure on or

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about late July 1997 in conjunction with litigation. This error was apparently caused by a failure of the individuals who originally prosecuted the application to appreciate the full scope of the invention.

(11) New claim 39 is a dependent claim based on claim 6 which describes a feature set forth in the specification. Claim 39 recites a step of handing off a mobile station from one base station to another. A claim specifying a step of "handing off a mobile station" was not presented in the original application and, thus, it is believed that the assignee and inventors claimed less than they had the right to claim. This error was discovered based on a more intensive review of the patent disclosure on or about late July 1997 in conjunction with litigation. This error was apparently caused by a failure of the individuals who originally prosecuted the application to appreciate the full scope of the invention.

(12) New claim 40 is a dependent claim based on claim 6 which describes a feature set forth in the specification. Claim 40 recites a step for terminating a radio signal from one of at least two base stations. A claim specifying a step of "terminating a radio signal" was not presented in the original application and, thus, it is believed that the assignee and inventors claimed less than they had the right to claim. This error was discovered based on a more intensive review of the patent disclosure on or about late July 1997 in conjunction with litigation. This error was apparently caused by a failure of the individuals who originally prosecuted the application to appreciate the full scope of the invention.

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(13) New claim 41 is a dependent claim based on claim 10 which describes a feature set forth in the specification. Claim 41 recites that the mobile station is handed off from one base station to another. A claim specifying a "wherein a mobile station is handed off" was not presented in the original application and, thus, it is believed that the assignee and inventors claimed less than they had the right to claim. This error was discovered based on a more intensive review of the patent disclosure on or about late July 1997 in conjunction with litigation. This error was apparently caused by a failure of the individuals who originally prosecuted the application to appreciate the full scope of the invention.

(14) New claim 42 is a dependent claim based on claim 10 which describes a feature set forth in the specification. Claim 42 recites terminating a radio signal from one of at least two base stations. A claim specifying a "wherein a radio signal is terminated" was not presented in the original application and, thus, it is believed that the assignee and inventors claimed less than they had the right to claim. This error was discovered based on a more intensive review of the patent disclosure on or about late July 1997 in conjunction with litigation. This error was apparently caused by a failure of the individuals who originally prosecuted the application to appreciate the full scope of the invention.

(15) New claim 43 is a dependent claim based on claim 13 which describes a feature set forth in the specification. Claim 43 recites handing off a mobile station from one base station to another. A claim specifying a "wherein a mobile station is handed off" was not presented in the original application and, thus, it is believed that the assignee

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and inventors claimed less than they had the right to claim. This error was discovered based on a more intensive review of the patent disclosure on or about late July 1997 in conjunction with litigation. This error was apparently caused by a failure of the individuals who originally prosecuted the application to appreciate the full scope of the invention.

(16) New claim 44 is a dependent claim based on claim 13 which describes a feature set forth in the specification. Claim 44 recites terminating a radio signal from one of at least two base stations. A claim specifying a "wherein a radio signal transmitted from one of said plurality of base stations is terminated" was not presented in the original application and, thus, it is believed that the assignee and inventors claimed less than they had the right to claim. This error was discovered based on a more intensive review of the patent disclosure on or about late July 1997 in conjunction with litigation. This error was apparently caused by a failure of the individuals who originally prosecuted the application to appreciate the full scope of the invention.

(17) New claim 45 is a dependent claim based on claim 14 which describes a feature set forth in the specification. Claim 45 recites means for handing off a mobile station from one base station to another. A claim specifying a "means for handing off a mobile station" was not presented in the original application and, thus, it is believed that the assignee and inventors claimed less than they had the right to claim. This error was discovered based on a more intensive review of the patent disclosure on or about late July 1997 in conjunction with litigation. This error was apparently caused by a failure of the

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individuals who originally prosecuted the application to appreciate the full scope of the invention.

(18) New claim 46 is a dependent claim based on claim 14 which describes a feature set forth in the specification. Claim 46 recites means for terminating a radio signal from one of at least two base stations. A claim specifying a "means for terminating a radio signal" was not presented in the original application and, thus, it is believed that the assignee and inventors claimed less than they had the right to claim. This error was discovered based on a more intensive review of the patent disclosure on or about late July 1997 in conjunction with litigation. This error was apparently caused by a failure of the individuals who originally prosecuted the application to appreciate the full scope of the invention.

(19) New claim 47 is a dependent claim based on claim 18 which describes a feature set forth in the specification. Claim 47 recites handing off a mobile station from one base station to another. A claim specifying a "wherein a mobile station is handed off" was not presented in the original application and, thus, it is believed that the assignee and inventors claimed less than they had the right to claim. This error was discovered based on a more intensive review of the patent disclosure on or about late July 1997 in conjunction with litigation. This error was apparently caused by a failure of the individuals who originally prosecuted the application to appreciate the full scope of the invention.

(20) New claim 48 is a dependent claim based on claim 18 which describes a feature set forth in the specification. Claim 48 recites terminating a radio signal from one

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of at least two base stations. A claim specifying a "wherein a radio signal is terminated from one of said base stations" was not presented in the original application and, thus, it is believed that the assignee and inventors claimed less than they had the right to claim. This error was discovered based on a more intensive review of the patent disclosure on or about late July 1997 in conjunction with litigation. This error was apparently caused by a failure of the individuals who originally prosecuted the application to appreciate the full scope of the invention.

(21) New claim 49 is a dependent claim based on claim 26 which describes a feature set forth in the specification. Claim 49 recites means for handing off a mobile station from one base station to another. A claim specifying a "means for handing off a mobile station" was not presented in the original application and, thus, it is believed that the assignee and inventors claimed less than they had the right to claim. This error was discovered based on a more intensive review of the patent disclosure on or about late July 1997 in conjunction with litigation. This error was apparently caused by a failure of the individuals who originally prosecuted the application to appreciate the full scope of the invention.

(22) New claim 50 is a dependent claim based on claim 26 which describes a feature set forth in the specification. Claim 50 recites means for terminating a radio signal from one of at least two base stations. A claim specifying a "means for terminating a radio signal" was not presented in the original application and, thus, it is believed that the assignee and inventors claimed less than they had the right to claim. This error was discovered based on a more intensive review of the patent disclosure on or

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about late July 1997 in conjunction with litigation. This error was apparently caused by a failure of the individuals who originally prosecuted the application to appreciate the full scope of the invention.

(23) New claim 51 is a dependent claim based on claim 29 which describes a feature set forth in the specification. Claim 51 recites means for handing off a mobile station from one base station to another. A claim specifying a "means for handing off a mobile station" was not presented in the original application and, thus, it is believed that the assignee and inventors claimed less than they had the right to claim. This error was discovered based on a more intensive review of the patent disclosure on or about late July 1997 in conjunction with litigation. This error was apparently caused by a failure of the individuals who originally prosecuted the application to appreciate the full scope of the invention.

(24) New claim 52 is a dependent claim based on claim 29 which describes a feature set forth in the specification. Claim 52 recites means for terminating a radio signal from one of at least two base stations. A claim specifying a "means for terminating a radio signal" was not presented in the original application and, thus, it is believed that the assignee and inventors claimed less than they had the right to claim. This error was discovered based on a more intensive review of the patent disclosure on or about late July 1997 in conjunction with litigation. This error was apparently caused by a failure of the individuals who originally prosecuted the application to appreciate the full scope of the invention.

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(25) New claim 53 is a dependent claim based on claim 30 which describes a feature set forth in the specification. Claim 53 recites means for handing off a mobile station from one base station to another. A claim specifying a "means for handing off a mobile station" was not presented in the original application and, thus, it is believed that the assignee and inventors claimed less than they had the right to claim. This error was discovered based on a more intensive review of the patent disclosure on or about late July 1997 in conjunction with litigation. This error was apparently caused by a failure of the individuals who originally prosecuted the application to appreciate the full scope of the invention.

(26) New claim 54 is a dependent claim based on claim 30 which describes a feature set forth in the specification. Claim 54 recite means for terminating a radio signal from one of at least two base stations. A claim specifying a "means for terminating a radio signal" was not presented in the original application and, thus, it is believed that the assignee and inventors claimed less than they had the right to claim. This error was discovered based on a more intensive review of the patent disclosure on or about late July 1997 in conjunction with litigation. This error was apparently caused by a failure of the individuals who originally prosecuted the application to appreciate the full scope of the invention.

(27) New claim 55 is a dependent claim based on claim 34 which describes a feature set forth in the specification. Claim 55 recites means for handing off a mobile station from one base station to another. A claim specifying a "means for handing off a mobile station" was not presented in the original application and, thus, it is believed that

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the assignee and inventors claimed less than they had the right to claim. This error was discovered based on a more intensive review of the patent disclosure on or about late July 1997 in conjunction with litigation. This error was apparently caused by a failure of the individuals who originally prosecuted the application to appreciate the full scope of the invention.

(28) New claim 56 is a dependent claim based on claim 34 which describes a feature set forth in the specification. Claim 56 recites means for terminating a radio signal from one of at least two base stations. A claim specifying a "means for terminating a radio signal" was not presented in the original application and, thus, it is believed that the assignee and inventors claimed less than they had the right to claim. This error was discovered based on a more intensive review of the patent disclosure on or about late July 1997 in conjunction with litigation. This error was apparently caused by a failure of the individuals who originally prosecuted the application to appreciate the full scope of the invention.

(29) New claim 57 is identical to claim 30, except that an additional clause "wherein said first base station terminates transmission of said first signal while said second base station continues to transmit said second signal to thereby handoff said mobile station from said first base station to said second base station" has been added to the end thereof and that claim 30 states that the mobile station receiver "reconstructs said first and second signals during a reception time interval" and new claim 57 instead states that the mobile station receiver "reconstructs said message information from said first and second signals received during a reception time interval". Accordingly claim 57, in part,

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has similar differences in claim scope with respect to the originally patented claims and addresses similar errors as those previously identified with respect to claim 30. Thus, paragraphs (22)-(24) of the Supplemental Declaration filed on October 30, 1996 also apply to claim 57 and are incorporated here by reference.

(30) The last clause of claim 57 describing the handoff of the mobile station is intended to address the error that a claim of this scope was not included during the original prosecution. This error was discovered on or about late July 1997 as a result of a more intensive review of the patent disclosure in conjunction with the related litigation. This error was apparently caused by a failure on the part of those prosecuting the application to appreciate the full scope of the invention. The changes made regarding the language used to express reconstruction are intended to clarify this passage of claim 57.

(31) New claim 58 is similar to claim 18. Thus certain differences in claim scope and errors addressed by claim 18 are also addressed in claim 58. These errors are discussed in paragraphs (28)-(21) and (22) of the Supplemental Declaration filed on February 8, 1996, the substance of which is incorporated here by reference.

(32) New claim 58 differs from claim 18, but is similar to claim 34, in the manner in which recovery of the signals is claimed. Specifically, new claim 58 does not use "mean-plus-function" format in describing the recovery of message information from the first and second signals. This error is more fully described in paragraph (30) of the Supplemental Declaration filed on October 30, 1997, which is incorporated here by reference.

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(33) Claim 58 primarily differs from claim 18 with respect to its addition of handover-related recitations. Specifically, claim 58 recites "said system providing for handover of a call in progress to one of said mobile stations as said mobile station moves between adjacent cells" (lines 3-4), "said second base station commencing the simultaneous transmission of substantially the same message information as said first base station prior to said handover of said call from said first base station to said second base station" (lines 12-15) and "said system performing the handover of said call in progress of said mobile station by terminating the transmission of said first signal when said mobile station moves from said at least one of said plurality of cells into an adjacent cell" (last three lines).

(34) The failure to present a claim including the handover-related recitations described in paragraph (33) resulted in the error that the assignee and inventors claimed less than they had the right to claim. This error was identified on or about late July 1977 as a result of a more intensive review of the patent disclosure in connection with litigation. This error was apparently caused by a failure of those prosecuting the original application to appreciate the full scope of the invention.

(35) New claim 59 is similar to claim 29. Thus, the differences in claim scope and errors identified and explained in paragraphs (19)-(21) of the Supplemental Declaration filed on October 30, 1996 are also, in part, rectified by new claim 59. Accordingly, these paragraphs are incorporated here by reference.

(36) New claim 59 differs from claim 29 in its inclusion of handover-related recitations. Specifically, claim 59 recites "said system providing for handover of a call in

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progress to one of said mobile stations as said mobile station moves between adjacent cells" and "said system performing a handover of a call in progress from a first one of said plurality of base stations to one of said base stations to one of said plurality of mobile stations in one of said plurality of cells by commencing the simultaneous transmission from a second one of said plurality of base stations of substantially the same message information as transmitted by said first base station and terminating the transmission of said message information from said first base station when said mobile station has moved into said adjacent cell".

(37) The failure to provide a claim including the handover-related recitations described in paragraph (36) resulted in the error that the assignee and inventors claimed less than they had a right to claim. This error was identified on or about late July 1997 during a more intensive review of the patent disclosure in conjunction with litigation. This error apparently arose by a failure of those involved in the prosecution of the original application to appreciate the full scope of the invention.

(38) New claim 59 also differs in its recitation of the modulation time interval as "being no longer than a few multiples of a propagation delay" and reception time interval which is "at least as long as said propagation delay" as compared with claim 29's recitation of modulation time intervals which are "at most a few times greater than a time required for radio signals to propagate a distance corresponding to a diameter of said cell" and reception time interval which is "at least as long as the time required for radio signals to propagate a distance corresponding to said diameter of said cell". These recitations in claim 59 are, however, found in, for example, claim 14. Thus, the error

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which is overcome by using this language is discussed in paragraph (17) of the Supplemental Declaration filed on February 8, 1996, which paragraph is incorporated by reference here.

(39) New claim 60 is similar to claim 34. Accordingly, differences in claim scope and errors which are treated by claim 34 are, in part, also treated by new claim 60. Thus, paragraphs (28)-(30) of the Supplemental Declaration filed on October 30, 1996, which describe these errors and how they arose, are incorporated here by reference.

(40) New claim 60 differs from claim 34 in that the time difference of arrival in claim 60 is referred to in claim 34 as a time shift. Moreover, claim 60 is broader than claim 34 in that the time difference of arrival may arise from circumstances other than differences in propagation delays as recited in claim 34. Thus, the failure to present a claim of the scope of claim 60 resulted in the assignee and inventor's claiming less than they had a right to claim. This error was discovered in September 1997 and was apparently caused by a failure of Applicants' counsel to appreciate the scope of the invention.

(41) New claim 60 also differs from claim 34 in the language used to describe how the mobile station processes the received signals. Specifically, claim 34 recites that the receiver "recovers said message information from said first and said second signals" and claim 60 recites that the receiver "combines said message information from said first and second signals". The usage of the word "combines" instead of "recovers" was determined to arguably be preferable based a review of recently discovered documents. More particularly, this error was discovered on or about March 1997 based upon review

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of an office action in a related European Patent application (documents cited in this office action were submitted with the Information Disclosure Statement filed on May 28, 1997). This error was apparently caused by a failure of the individuals who originally prosecuted the application to appreciate the full scope of the invention.

(42) New claim 61 is similar to claim 30. Accordingly, some of the differences in claim scope, and errors which are treated thereby, are described in paragraphs (2)-(24) of the Supplemental Declaration filed on October 30, 1996, which are incorporated here by reference.

(43) New claim 61 differs from claim 30 in that the mobile station in claim 61 includes a "means for combining information from said first and second signals received during a reception time interval" rather than "said mobile station receiver reconstructs said first and second signals during a reception time interval", as in claim 30. The usage of the word "combines" instead of "recovers" was determined to arguably be preferable based a review of recently discovered documents. More particularly, this error was discovered on or about March 1997 based upon review of an office action in a related European Patent application (documents cited in this office action were submitted with the Information Disclosure Statement filed on May 28, 1997). This error was apparently caused by a failure of the individuals who originally prosecuted the application to appreciate the full scope of the invention.

(44) New claim 62 is similar to claim 34. Accordingly, differences in claim scope and errors which are treated by claim 34 are, in part, also treated by new claim 60.

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Thus, paragraphs (28)-(30) of the Supplemental Declaration filed on October 30, 1996, which describe these errors and how they arose, are incorporated here by reference.

(45) Claim 62 differs from claim 34 in the last clause wherein the receiver "combines said message information from said first and said second signals received during a reception time interval" rather than "recovers said message information from said first and said second signals during a reception time interval". The usage of the word "combines" instead of "recovers" was determined to arguably be preferable based a review of recently discovered documents. More particularly, this error was discovered on or about March 1997 based upon review of an office action in a related European Patent application (documents cited in this office action were submitted with the Information Disclosure Statement filed on May 28, 1997). This error was apparently caused by a failure of the individuals who originally prosecuted the application to appreciate the full scope of the invention.

(46) Each of the foregoing errors arose without any deceptive intention on the part of the undersigned.

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(47) The undersigned declare further that all statements made herein are of our own knowledge and are true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under §1001 of Title of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

DATE: Sep 16, 1997

J. E. Uddenfeldt  
Jan E. Uddenfeldt

DATE: Sep. 16, 1997

Alex K. Raith  
Alex K. Raith